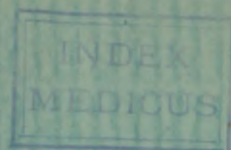


VAN LENNEP. (Wm B.)

With the Compliments of the Author.

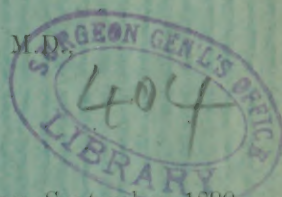


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OF THE  
BLADDER.

BY

WM. B. VAN LENNEP, A.M., M.D.  
PHILADELPHIA, PA.



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# SUPRAPUBIC DRAINAGE

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## BLADDER.

BY

WM. B. VAN LENNEP, A.M., M.D.,

PHILADELPHIA, PA.



IN connection with the two papers on suprapubic lithotomy presented to-night, I have thought it might not be out of place to direct attention to epicystotomy as a means of more or less permanently draining the bladder. I do this especially with the hope that this method of diverting the flow of urine from its ordinary channel, may be borne in mind in the treatment of that large class of cases, particularly old men, whose entrance upon so called "catheter life" is but too often the beginning of a very near end.

My personal experience with this operation for the purpose of establishing an artificial urethra is limited to two cases, one of which is of too recent date to be of value. The history of the other is briefly as follows:

Mr. T. E. W., age 55 years, was sent me early last summer by Dr. Rembaugh. His symptoms then were those of an aggravated cystitis, with an abundance of pus, quite profuse hæmorrhages, frequent urination (every fifteen minutes, day and night), dysuria and cystic pain. The prostate was enlarged, a projecting middle lobe being also made out, as well as the trabeculæ of an eccentric hypertrophy of the vesical wall. No stone or tumor could be felt. The cystoscope showed intense congestion of the mucous membrane. Careful and persistent washing, appropriate medication and the use of the catheter did no good, the latter causing such pain and irritation that it could not have been available much longer. The expression was anxious and pinched and the man plainly failing from week to week. Suprapubic exploration and possible permanent fistula was suggested and eagerly accepted.

The operation was performed at the Hahnemann Hospital, August

27, 1889, with the usual precautions. The technique will be referred to later on. The mucous membrane was found to be soft and mushy and bled easily; the lateral prostatic lobes were uniformly and considerably enlarged and the middle lobe formed a distinct projection; the soft catheter passed around this while the staff pushed it back. It was readily removed with *rongeur* forceps; the hæmorrhage was moderate. A T-shaped tube served for drainage, around which the tissues were closely united by catgut. The after-treatment consisted of irrigation by the urethra three times daily. On the second day there was a chill and rise of temperature; the tube was removed, irrigation practiced hourly and the wound partially opened later on. After this recovery was uninterrupted.

The urine gradually cleared up and has remained normal ever since; there has been no recurrence of the hæmaturia; urination became less and less frequent and entirely free from pain until now he passes water every two or three hours during the day and less frequently at night. He wore a catheter and canula until December, since which time he has drawn his urine through the fistula when the bladder feels distended. The fistula never leaks nor can he force any urine out of it. He occasionally urinates through the urethra, at night when he is too sleepy to use the catheter, or when the bladder gets very full and he feels the sudden and irresistible urging so characteristic in prostatic enlargements. He cannot however completely empty the viscus on account of the bilateral hypertrophy of the prostate, and will not, consequently, listen to any attempt at closing the fistula. On one occasion, when this was plugged experimentally for several days, the residual urine set up a cystitis with a recurrence of his old pain. Strange to say the sexual function has been revived and renewed. He has resumed his work which he had been obliged to give up. Within a few weeks a hernia appears to be developing in the cicatrix above the fistula.

This case is an example of a method of treatment first systematically advocated, so far as I know, by Hunter McGuire. In the *Transactions* of the American Surgical Association (Vol. VI., 1888) he reports his first case and supplements this with several more in the *Medical News* (May 17th, 1890).

The operation presents undoubted advantages over the other methods in vogue.

Perineal section, digital exploration and drainage by a tube has been earnestly advocated and extensively practiced by Sir Henry Thompson, but even he seems, more recently, to be gravitating towards the suprapubic route. In my experience, and I think that I voice that of a goodly number of surgeons, if not the majority, the perineal tube is excessively painful, cannot be worn long and, when removed, the drainage ceases. Digital exploration of the



bladder is possible if the perineum be not very deep, but cannot be aided by inspection. Operative procedures for tumor, prostatic enlargements, or the removal of unexpected calculi must necessarily be more or less hampered by the lack of working space, and parts are stretched and roughly handled, a tearing of which may lead to disastrous results. To my mind these drawbacks more than counterbalance the dependent drainage, and this too is often *not* dependent, if, for example, a prostatic hypertrophy be present.

On the other hand the suprapubic route is the one to fall back on when all others fail and seems to-day to be fast making a record which will permit of its being called the point of election. By it anything removable can be removed, digital exploration is as thorough and as easy as possible, and inspection can be made of every corner with the aid of an electric lamp or head mirror and Trendelenburg's cystic or pelvic Sim's position. Drainage furthermore is *continuous* and *complete*, with or without a tube, and without the necessity of the prone position. I have never met with a suprapubic fistula that refused to heal; in fact the trouble has been to keep the opening patulous long enough. This was so in the case just reported. Even should such a fistula persist it cannot, to my mind, be more annoying and obstinate than those I have met with in the perineum. It cannot, furthermore, interfere with the sexual function, as does at times the perineal section. McGuire and others who have practiced his method have found that the urine can be thrown several feet from an artificial suprapubic urethra. In my own case, while the fistula does not accomplish this, "catheter life" is carried on without irritating the sensitive deep urethra and without the consequent dangers and complications so familiar to every one. In point of fact, it had been found in this case that the continuous use of the catheter would be impossible. One disadvantage I must record, and this especially as it is an unusual sequela, the development of the hernia in the cicatrix above the fistula. I have no doubt that had I been able to leave the wound closely sutured layer by layer around the tube this might have been avoided. It can be readily controlled by a truss.

As to the other methods, rectal puncture, to say the least, can never be of service for any length of time. For temporary relief it has long been superseded by suprapubic aspiration which can be repeated indefinitely. Harrison's perineo-prostatic puncture does not seem to have met with favor, and, while it drains for a length of time, it allows of no exploration.

Suprapubic permanent puncture, as recommended and practiced by Dittel, has some advocates, but I must confess to a strong prejudice against it. It has drainage and the point of election in its favor, but urinary infiltration certainly takes place alongside the canula at times and there is no wound to open and give free vent. I saw several deaths in succession in Dittel's wards, and met with a similar result in the one case in which I have tried it. The patient was an old man with enormously distended bladder, tight stricture, and very large prostate. The puncture and *slow* evacuation gave temporary relief, but infiltration followed. In urgent cases I have usually aspirated when no instrument could be *coaxed* into the bladder, and, in a similar case, would practice this and follow it by epicystotomy and an artificial urethra. Or better, an incision is made down to the bladder under cocaine anæsthesia, the urine slowly drawn off with the aspirator and the opening made at once or later on, as is deemed advisable. In this way, urinary infiltration would be out of the question.

The removal of portions of the prostate has hitherto been very fatal in its results. McGill, of Leeds, in a recent article, has made an earnest plea for the procedure and recorded very satisfactory results from his own practice and that of his colleagues. I have on three occasions twisted or cut off a prominent middle lobe without much hæmorrhage and without after complications. I should hesitate, however, to practice removal of lateral lobes unless they presented a distinct, projecting, or more or less pedunculated tumor. In the three cases mentioned the lateral lobes were uniformly and considerably enlarged and while the removal of the prominent middle lobe did away with the major symptoms, in one instance permitting an uninterrupted flow of urine, and in the other rendering voluntary urination possible for the first time in many years, residual urine still remained and the annoyance caused thereby continued in a modified degree.

As to the technique, it may not be out of place to refer to a few points, as I have used much the same method in all my epicystotomies.

(1) *Position*.—The buttocks are raised by a firm pillow, the head of the table is lowered, and, for inspection, this is exaggerated by an assistant, who raises the pelvis with the limbs over his shoulders, or, in a child, by inverting the body. These precautions cause the abdominal contents to gravitate toward the diaphragm and tend to keep the peritoneal fold out of harm's way; further elevation, after



the bladder is opened, causes its distention with air, like the vagina in the well known Sim's position. If available Trendelenburg's table will be useful. I might add here that I have used this position, as suggested by Trendelenburg (*Sammlung Klinischer Vorträge*, No. 355), in abdominal sections for pelvic troubles with much satisfaction. In one instance I was able at once to detect and arrest a severe hæmorrhage deep in the pelvis; previously I had been obliged to lose time and run risks by evisceration. (2) *Distension of the Bladder and Petersen's Bag*.—I have always used the former, after thoroughly washing, carefully injecting from six to ten ounces. Extreme care is necessary in cases of contracted or much diseased bladders. Petersen's bag has been much extolled and used. A. B. Strong (*Annals of Surgery*, January, 1888) has shown by experiments on the cadaver that it has more to do with raising the bladder, and particularly the peritoneal fold, than the intravesical injection. Braun's Colpeurynter or Barnes's Dilators make very good substitutes for the Petersen bag. Its careless use has resulted in serious accidents on some occasions, so that I have come to depend upon it less and less. In children in whom we would expect a low dip of the peritoneum I always use it, but in adults it seems to be of minor importance. I have never wounded the peritoneum, nor should I particularly dread doing so. If the pelvis is well raised, the head and shoulders depressed, and the steps to be described are followed, there seems to be little danger of such an accident. (3) *Incision*.—This is best made in the linea alba, just as in a median laparotomy, about three inches in length and down on to the pubic symphysis; it may advantageously be supplemented by transverse separation of the muscles from the bone in powerful subjects, in incomplete anaesthesia, or if much room is desired. The prævesical fat is then to be rolled up with the finger, aided by a few touches of the scalpel, to avoid laceration, and with it the peritoneal pocket, until the bladder-wall proper is reached. In finding the latter the operator is much aided by (4) *The Staff*, with or without a groove on its upper aspect, and hollow or solid, over the beak of which the tissues can be rolled until it is certain that nothing intervenes but the vesical wall. In fact, when this is reached, the tip of the instrument can be distinctly seen. (5) *Opening the Bladder*.—This should be preceded by passing a loop of silk at the top of the proposed incision to steady the wall. A tenaculum is apt to slip off, and I have found this loop a handy guide in re-entering the cavity, introducing instruments, etc. The incision can then be made on the point of the staff and along its groove. One word of caution

may not be out of place here. The assistant should hold the staff *absolutely* still. It happened to me a short time since that, after cutting down on the point of the instrument its beak turned and I lost the small opening. As a result the bladder was punctured twice. The finger should at once follow the knife and explore the distended viscus. I have found that an empty bladder will contract quite forcibly on the finger, and cannot of necessity be as thoroughly explored as one that is partly filled. Manipulations and inspection can be materially aided by grasping the edges of the vesical wound with artery clips or T-forceps, and drawing them out and apart. (6) *Closure, drainage and after-treatment.*—It has been my custom to drain the bladder with the T-shaped tube for from a few hours to three or four days according to the annoyance it may cause. The inlying catheter is unnecessary as the organ empties itself *completely* through the wound. This is closed around the tube layer by layer, more and more loosely, forming a funnel into which iodoform gauze is lightly packed. A rise of temperature calls for removal of the tube, frequent irrigation through the urethra, and, if necessary, removal of the stitches. If no amelioration follow I have, in one instance, kept a stream of borated water running continuously for twenty-four hours through a catheter in the urethra, into the bladder and out of the hypogastric wound. This washed out every drop of urine as it came down from the ureters and had the desired effect.

Of course in young subjects or healthy bladder-walls that have not been roughly handled, if drainage is not desired, immediate or secondary suture is indicated.

There is one result of epicystotomy on which I do not think sufficient stress has been held—its influence on hæmaturia. I have met with two cases in my own practice and have seen a number in other hands, where a persistent hæmaturia was so associated with cystic symptoms as to call for an exploratory epicystotomy, at least as a preliminary step. Nothing was found beyond a possible varicosis of the bladder but the bleeding invariably stopped and this whether or not drainage was employed. This seems to be somewhat analogous to the benefit following abdominal section for growths that cannot be removed.

In conclusion I would heartily endorse epicystotomy: (1) In exploration, as giving the easiest access and the best means of subsequent operative work if needed. (2) For drainage, temporary, where it compares favorably with the perineal section, or to form



the best possible artificial urethra. (3) As the method par excellence for the removal of growths, prostatic or neoplasms, and as *the cutting* operation for stone, if not *the* operation for stone in the hands of the average surgeon, one who is not trained in urethral and vesical manipulations.







